

Notice of Allowability

Application No.

10/786,082

Examiner

Jerry T. Rahl

Applicant(s)

OIKAWA ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application received 26 February 2004.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 2/26/04; 9/7/04; 12/3/04.
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

John D. Lee
John D. Lee
Primary Examiner

Jerry T. Rahl

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 26 February 2004, 7 September 2004 and 3 December 2004 in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

3. The drawings submitted on 26 February 2004 have been reviewed and determined to facilitate understanding of the invention. The drawings are accepted as submitted.

Allowable Subject Matter

4. The following is an examiner's statement of reasons for allowance. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
5. Claims 1-13 are allowed.
6. Claims 1-11 describe an optical cross-connect apparatus having an input optical signal processing section for converting wavelength of each input WDM signal into a number of wavelengths equal to the number of WDM signals, compressing the pulse widths of the WDM signals by dividing the pulse widths by the number of the wavelengths of each input WDM signal and performing a phase shift such that the phases of the compressed signals will not be the

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same; a wavelength switching section including passive optical devices for the distribution of the processed input signals; and an output signal processing section for converting wavelengths in the optical signals from the switching section into wavelengths recognize from the phase of the optical signals, for expanding the pulse widths and for outputting WDM signals.

7. U.S. Patent No. 6,477,300 to Watanabe et al. describes an optical cross-connect apparatus having an input optical signal processing section for converting wavelength of each input WDM signal into a number wavelengths equal to the number of WDM signals (126) and compressing the pulse widths of the WDM (72) (see figure 18 and Columns 5-6). Watanabe et al. does not describe the input optical signal processing section performing a phase shift such that the phases of the compressed signals will not be the same or the device having a wavelength switching section including passive optical devices for the distribution of the processed input signals; and an output signal processing section for converting wavelengths in the optical signals from the switching section into wavelengths recognize from the phase of the optical signals, for expanding the pulse widths and for outputting WDM signals.

8. While it is well-known in the art to direct the output of a processing section as described by Watanabe et al. to a switching section, there is no suggestion of an output signal processing section for converting wavelengths in the optical signals from the switching section into wavelengths recognize from the phase of the optical signals and for expanding the pulse widths.

9. Claims 12-13 describe an optical cross-connect apparatus having wavelength converters; a first wavelength switching section having demultiplexers, first processing sections for converting a wavelength in each of the demultiplexed signals to one of a specified range of wavelengths, compressing the pulse widths of the demultiplexed signals and performing a phase

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shift, multiplexers connected to the first processing sections and first wavelength conversion and pulse width expansion sections; and a second wavelength switching section having demultiplexers, second processing sections for converting a wavelength in each of the demultiplexed signals to one of a specified range of wavelengths, compressing the pulse widths of the demultiplexed signals and performing a phase shift, multiplexers connected to the first processing sections and second wavelength conversion and pulse width expansion sections.

10. U.S. Patent No. 6,741,811 to Nishi et al. describes a first wavelength switching section having demultiplexers, first processing sections for converting a wavelength in each of the demultiplexed signals to one of a specified range of wavelengths, multiplexers connected to the first processing sections and first wavelength conversion and pulse width expansion sections.

Nishi et al. does not describe the switching sections as compressing the pulse widths of the demultiplexed signals and performing a phase shift. Further, Nishi et al. does not describe multiple switching sections.

11. U.S. Patent Nos. 6,477,300 to Watanabe et al. and 6,741,811 to Nishi et al. remain the closest prior art of record in this application. For the reasons stated above, however, Claims 1-13 herein are deemed to patentably distinguish over Watanabe et al. and Nishi et al. and all other prior art of record.

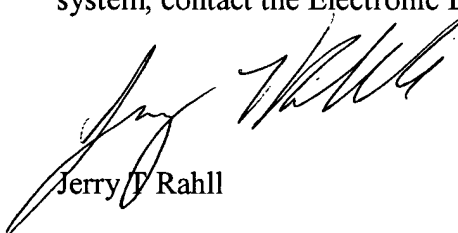
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-Th (8:30-5:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jerry T. Rahll



John D. Lee
Primary Examiner